



## PATENT ABSTRACTS OF JAPAN

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application: **30.06.98**(51)Int. Cl. **F01L 3/02****B23K 9/04****B23K 10/02****B23K 35/30****C22C 9/06****F01L 3/24**(21)Application number: **08340021**(22)Date of filing: **19.12.96**(71)Applicant: **NISSAN MOTOR CO LTD**(72)Inventor: **KANO MAKOTO  
SUZUKI KENJI****(54)BUILT-UP VALVE SEAT AND ITS  
MANUFACTURE****(57)Abstract:**

**PROBLEM TO BE SOLVED:** To largely improve abrasion resistance and reduce the occurrence of a material defect by forming a built-up valve seat having a structure of hard deposits with different average grain sizes along the peripheral direction.

**SOLUTION:** When an alloy is built up on an exhaust side valve seat section 1E within an intake side valve seat section 1A and the exhaust side valve seat section 1E on the cylinder head port section 1P of an aluminum alloy cylinder head 1 with a carbon dioxide laser to form a valve seat 1S, a built-up layer is formed on condition that hard grains (hard phase) are deposited small, then the condition is switched to deposit hard grains (hard phase) large in the necessary region near an engine ignition plug P, and the built-up layer is formed on the exhaust side valve seat section 1E. The region having a

structure dispersed with hard deposits with a large average grain size is preferably set to the portion at the peripheral angle of 30-90° centering on the portion nearest to an engine ignition plug P.

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